



# **TWENTY-FIRST TRANSDUCER WORKSHOP**

**LEXINGTON PARK, MARYLAND**

**JUNE 22-23, 2004**

**Sponsored by  
Vehicular Instrumentation/  
Transducer Committee of the  
Range Commanders Council  
Telemetry Group**



## **Definition of The Transducer Workshop**

### **History**

The Vehicular Instrumentation/Transducer Committee, Telemetry Group, of the Range Commanders Council, sponsors the Workshop. This committee develops and implements standards and procedures for instrumentation applications. The previous workshops, beginning in 1960, were held at two-year intervals at or near various U.S. Government installations around the country.

### **Attendees**

Attendees are working-level people who must solve real-life hardware problems and are strongly oriented to the practical approach. Their field is making measurements of physical parameters using transducers. Test and project people who attend will benefit from exposure to the true complexity of transducer evaluation, selection, and application.

### **Subjects**

Practical problems involving transducers, signal conditioners, and read-out devices will be considered as separate components and in systems. Engineering tests, laboratory calibrations, transducer developments, and evaluations represent potential applications of the ideas presented. Measurands include force, pressure, flow, acceleration, velocity, displacement, temperature, and many others.

### **Emphasis**

The Workshop

1. Is a practical approach to the solution of measurement problems,
2. Strongly focuses on transducers and related instrumentation used in measurements engineering,
3. Has a high ratio of discussion to presentation of papers, and
4. Attendees share knowledge and experience through open discussion and problem solving.

### **Goals**

The workshop brings together those individuals who use transducers to identify problems and to suggest solutions, identifies areas of common interest, and provides a communication channel within the community of transducer users. The primary goals are to:

1. Improve the coordination of information regarding transducer standards, test techniques, evaluations, and application practices among the national test ranges, range users, range contractors, other transducers users, and transducer manufacturers;
2. Encourage the establishment of special sessions so that attendees with measurement problems in specific areas can form subgroups and remain to discuss these problems after the workshop concludes; and
3. Solicit suggestions and comments on past, present, and future Vehicular Instrumentation/Transducer Committee efforts.

# Program

## Monday, June 21, 2004

1900 Social Hour - Fairfield Inn  
Courtesy of the Vehicular Instrumentation/Transducer Committee

## Tuesday, June 22, 2004

0700 REGISTRATION

0745 **General Chairman**, Jim Barnes, Dugway Proving Ground

**Session Chairman:** Sam Marderness, Aberdeen Test Center

0800	Micromachined Piezoresistive Pressure Sensors Suitable for Ballistic Launch Environments David Combes, Qinetiq Corp	1130	Improved Ruggedized High Temperature Transducers for Extreme Environments Alex Ned, Kulite
0830	Use of Embedded Strain Measurement Technology in Extreme Environment and Critical Application Input Devices and Controls Jane Kamentser, Bokam Engineering, Inc	1200	WORKING LUNCH on Site (included)
0900	Chamber Pressure Transducer Calibration Investigation Ken McMullen, US Army Aberdeen Test Center	1300	Improved SIC Leadless Pressure Sensors for High Temperature, Low and High Pressure Applications Alex Ned, Kulite
0930	Blast Measurements: Selecting the Appropriate Pressure Transducer and Properly Interfacing It Patrick Walter, PCB / Texas Christian University	1330	Tutorial: ISA S37.16 A Guide for the Dynamic Calibration of Pressure Transducers Jon Wilson, The Dynamic Consultant
1000	BREAK	TBD	BREAK
1030	The Art of Mounting Blast Overpressure (BOP) Transducers Scott Walton, US Army Aberdeen Test Center	1645	Wrap-up
1100	Total Impulse Gauge (TIG) for Measurements of Multi-Phase Flows in Blast Waves Fred Sandstrom, Applied Research Associates, Inc., Rocky Mountain Division		

**Wednesday, June 23, 2004**

**Session Chairman:** Dave Banaszak, Air Force Research Laboratory

0800	Shock and Vibration Information Analysis Center (SAVIAC) Joel Leifer, SAVIAC	1130	IEEE P1431.3 Smart Transducers Lee Eccles, Boeing
0830	Fourier Transform Infrared Spectrometry (FTIR) Richard Green, Dugway Proving Ground	1200	WORKING LUNCH on Site (included)
0900	Technical Advances in a Commercial Off The Shelf Accelerometer Calibration System Edward Peterson, MB Dynamics	1300	Capacitive Extensometer for Measuring Principal Strains in a Material Gail Perusek, NASA – John Glenn Research Center
0930	DTS G5 Data Acquisition System Doug Coppess, General Dynamics, AFRL/HEPA	1330	A Primer on Chamber Pressure Abnormalities, Part 1 Dave Porter, US Army Aberdeen Test Center
1000	BREAK	1400	Tutorial: What is an Accelerometer Wayne Tustin, Equipment Reliability Institute
1030	Development of an Instrumentation Suite to Measure Helmet Windblast and Impact Loading John Plaga, AFRL/HEPA	TBD	BREAK
1100	Optical Fiber Transducers for Harsh Environments Jon Greene, Lambda Inc.	1645	Wrap-up

## General Information

All attendees and participants are required to register. The registration consists of a completed registration form and a fee of \$100.00 to:

Ray Faulstich, Treasurer  
Transducer Workshop  
44195 Steele Lane  
Leonardtown, MD 20650

Advance registration is desirable. If possible, please use the registration form; include a check or money order (payable to the Transducer Workshop) for \$100.00 and mail to the Workshop Treasurer. **Purchase orders and Credit Cards are not acceptable.** Register by telephone at (301) 342-1553 or by email to [raymond.faulstich@navy.mil](mailto:raymond.faulstich@navy.mil). Late registration or payment will be at the Workshop registration desk in the conference center.

## Conference Facility

The Twenty-First Transducer Workshop will be held at the J. T. Daugherty Conference Center, 22219 Three Notch Road (MD Route 235), Lexington Park, Maryland 20653 (across from the Naval Air Warfare Center Aircraft Division, Patuxent River and adjacent to the Fairfield Inn).

## Hotel Accommodations

Fairfield Inn  
22119 Three Notch Road (MD Route 235)  
Lexington Park, MD 20653  
301-863-0203 / FAX: 301-863-2113  
[fairfieldlp@chemycove.com](mailto:fairfieldlp@chemycove.com)  
**Group Code: TDWG**

Early hotel reservations are strongly encouraged as a fixed block of rooms is reserved for the Transducer Workshop until May 21st. The hotel rate is \$80 per night.

## Tour

No formal tour is planned; however, the Naval Air Warfare Center Aircraft Division museum is located nearby and is open daily.

## Format and Background

Workshops are just what the name implies: everyone should come prepared to contribute something from their knowledge and experience. In a workshop, the attendees become the program in the sense that the extent and enthusiasm of their participation determine the success of the workshop. Participants will have the opportunity to hear what their colleagues have been doing and how it went; to explore areas of common interest and common problems, and to offer ideas and suggestions about what's needed in transducers, techniques, and applications.

# Twenty-First Transducer Workshop

The Twenty-First Transducer Workshop, sponsored by the Vehicular Instrumentation / Transducer Committee, Telemetry Group, of the Range Commanders Council, will be held June 22-23, 2004 at the J. T. Daugherty Conference Center in Lexington Park, MD. This committee develops and implements standards and procedures for transducer applications. Attendees are working level people who must solve real-life hardware problems and are strongly oriented to the practical approach. Test and project people who attend will benefit from exposure to the true complexity of transducer evaluation, selection, and application.

A block of rooms has been reserved for the workshop at the Fairfield Inn in Lexington Park, MD, with a limited number of rooms available on a first come first serve basis. Since there is also limited seating available at the Transducer Workshop attendees are encouraged to register as early as possible. With your registration please include a \$100.00 registration fee payable to the Transducer Workshop, and mail to the Workshop Treasurer by June 1, 2004.



## Twenty-First Transducer Workshop Registration Form



Name \_\_\_\_\_ Title \_\_\_\_\_  
Organization \_\_\_\_\_  
Mailing Address \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
Phone \_\_\_\_\_  
Email \_\_\_\_\_

### REGISTRATION FEE is \$100.00

- ◇ Check or money order payable to Transducer Workshop is enclosed
- ◇ Register now, pay at the Workshop

Mail Registration by June 1, 2004 to: Ray Faulstich  
Transducer Workshop  
44195 Steele Lane  
Leonardtown, MD 20650

Register by email: [raymond.faulstich@navy.mil](mailto:raymond.faulstich@navy.mil)